

“It was the age of wisdom”: IAG targets sustainability

IT WAS *the best of times. It was the worst of times.* In November two of the major network carriers in Europe held investor days: one in London, one in Paris. They couldn’t have been more different. In London, IAG’s CEO Willie Walsh highlighted that *their* event would be entirely carbon-neutral, and put forward the group’s strategy to aim for zero net carbon emissions by 2050 — the first airline in the world to promulgate such a target.

Climate change and aviation’s impact on it has come to the fore in the past two years. We highlighted the industry’s lacklustre response to environmental activist groups such as Extinction Rebellion in the June edition of *Aviation Strategy*. IAG now feels it imperative to show that the group is at the forefront of the sustainability movement.

IAG believes that it has a track record of leadership on environmental issues. British Airways, Walsh avers, was the first airline to report its carbon footprint in 1992. In 1999 it was the first airline to set a fuel efficiency target. It voluntarily joined the UK emissions trading scheme in 2002 and claims that it was an early pioneer in exploring sustainable aviation fuels in 2010.

Background

Transport accounts for an estimated 22% of global CO₂ emissions, of which over three quarters relates to road transport and about a tenth each to sea transport and aviation. While road transport is busy developing the technology for hybrid and electric cars, aviation has no realistic alternative to carbon based fuels for propulsion; and over 85% of air travel is on routes of over 1,500km for which there is no timely alternative

for the carriage of people or goods.

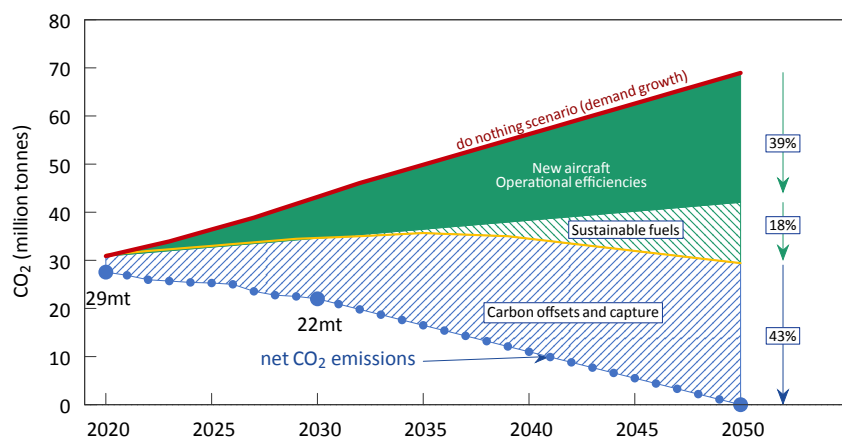
The airline industry as a whole currently accounts for about 2.3% of total man-made CO₂ production (and a possible 3% of total radiative forcing). Over the next thirty years other industries (mostly power generation and ground transport) will be forced to reduce their dependence on fossil fuels, and by 2050 aviation could be responsible for 4.5% of CO₂ — a doubling of current levels.

The 2015 Paris Accord saw an agreement by 195 countries in the world to limit global warming to 2°C above pre-industrial levels by 2050 (it is already at 1.1°C over those levels). Since then there has been an in-

This issue includes	
	Page
IAG targets sustainability	1
to buy Air Europa	4
Air France-KLM targets sustainability	5
Boeing: When will there be good news?	8
Virgin Atlantic: Once in a generation slot reform	14
Jet Values and Lease Rates	19

creasing sense of urgency that more has to be done, and over a shorter timescale. The World Meteorological Organization’s 2019 report noted that atmospheric CO₂ concentration had reached 407 parts per million (ppm) in 2017, up from 342ppm in 1985. Some commentators have claimed

IAG PATHWAY TO NET ZERO CO₂ BY 2050



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that this level has not been seen on earth for 3-5 million years — possibly a time when temperatures were 2°C and sea levels 10m higher than today. The Intergovernmental Panel on Climate Change (IPCC) published a report at the end of 2018 calling for a new limit of 1.5°C increase in global temperatures by 2050 compared with those 300 years ago. This would mean that global emissions would need to halve from 2018 levels by 2030 (twenty years earlier than the former agreement) and that the world should now aim for net zero emissions by 2050 (meaning that by then as much CO₂ must be absorbed or captured as emitted).

Many have baulked at this target, but over 70 countries and 85 companies have now committed to “net zero” by 2050 or sooner; some countries including the UK and France have committed to it in law.

Pathway to net zero emissions

Is IAG’s target achievable? A significant part of the roadmap to zero net emissions is under the group’s control. The natural process of the industry is to renew the fleet with new generation and increasingly fuel efficient aircraft.

The group will be acquiring 142 new aircraft by 2022 including A320neos and A350s, which are up to 25%-40% more fuel-efficient than the aircraft they will be replacing. Under current plans this will reduce the average fleet age from 11.4 to 10.2 years. Indeed Willy Walsh pointed out that the group had delayed replacing some aircraft awaiting the newest generation and most fuel efficient offerings; and it is accelerating the disposal of the older 747s. It is expecting that its overall CO₂ fuel efficiency will reach 87.3g/RPK in 2020 and drop by 10% (or by a

compound 2% a year) to 80g/RPK in 2025.

The group is also exploring ways in which in-flight operational alterations can improve its environmental footprint. In 2018, as examples, Aer Lingus fitted retracting landing lights to save 570t of CO₂; Vueling retrofitted lighter seats on its aircraft to save 1,000t CO₂; Iberia adjusted on-board water usage to save 200t; and BA was able to make changes to flight paths creating a saving of 7,000t.

Walsh even upped his environmental credentials by mentioning “tankering” — the process of loading more fuel from a departure airport to avoid lifting fuel from a destination airport where jet kerosine was priced substantially higher. This represents (in his words) “corporate greed” to achieve the lowest input fuel cost at the expense of fuel efficiency (an aircraft needs to use a significant proportion of that fuel to transport that fuel to and from the destination).

But fleet renewal and operational changes will not be enough to mitigate against the inexorable growth of traffic. According to IAG’s figures these measures would reduce carbon emissions by nearly 40% of what they would be without any action by 2050 (see graph on the preceding page). They would still increase.

Using sustainable biofuels is one potential to improve on these actions. In 2018 IAG partnered with AIM-listed Velocys to generate sustainable drop-in aviation fuel from waste products. They are developing Europe’s first waste-to-fuel plant in England’s South Humberside and expect this to be operational by 2024, with 40m litres of sustainable fuel production by 2030. Unfortunately, the economic cost of generating biofuels, even from waste products, is

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a significant multiple of the current cost of jet kerosine. (It is perhaps interesting to note that Norway recently passed legislation to mandate local aviation fuel suppliers to blend jet fuel with 0.5% biofuels from January 2020, despite the lack of supply. Carriers less ethical than IAG will no doubt increase tankering on flights to Norway.)

By 2050 the group expects that 30% of its fuel requirement will be fulfilled by sustainable fuels. But this will only reduce its net carbon footprint by an additional 18%, leaving no change from current day levels.

Market-based measures

The remaining 43% of the target towards net zero, Walsh points out, has to be achieved by market-based measures.

Governments, particularly in Europe, have tried to tackle the issue through taxation. The UK introduced its Air Passenger Duty (APD) tax in 1995, ostensibly as an environmental tax (but more honestly as a way of raising general tax income). Since its introduction the rate has risen more

than six-fold, and is now the highest rate of passenger aviation tax in the world.

The Netherlands first introduced a passenger tax in 2008 but then withdrew it two years later when it found that it had had a negative impact on GDP as passengers decided to fly from neighbouring countries where taxes were lower. However, the country is currently proposing a European departure tax on a “level playing field”, failing which it has tabled a draft law to re-introduce such a tax in 2021.

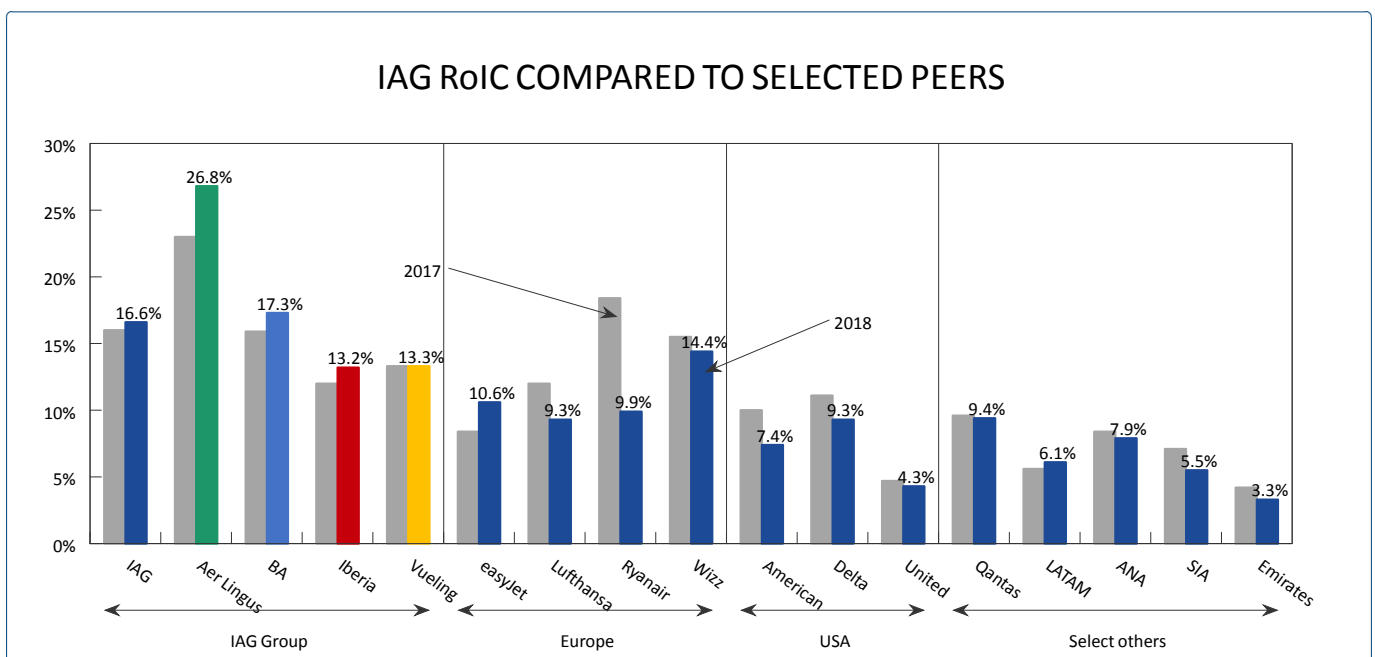
But departure taxes are not efficient at solving the problem: they may have an impact in reducing demand by increasing ticket prices, but they do nothing to encourage fuel efficiency or the development of technological change. In its presentation, IAG points out that its airlines in 2018 paid €885m in APD, the UK’s passenger tax, sufficient to offset its total annual CO₂ emissions ten times over.

So the answer is a combination of the European Emissions Trading Scheme (ETS) for intra-European flights and the ICAO negotiated CORSIA. The former requires carbon

emitters to buy allowances (with a current price of around €25/t). The price of carbon will rise over time. The latter involves a commitment to invest in carbon capture and offset schemes to match CO₂ emissions — but by the nature of the ICAO agreement only on international flights.

Independently, IAG is fostering Mosaic Materials, a new start-up selected for the group’s Hangar 51 accelerator programme (which gives disruptors and innovators the opportunity to pilot their technologies at scale through the group’s airlines). Mosaic is developing carbon capture and storage (CCS) technology, which the IPCC identified as essential to reach the 1.5°C target

Other airlines are keen to demonstrate their green credentials. Qantas, three days after IAG’s Investor Day, announced it would also target “net zero” by 2050. easyJet in its full year results statement announced that it would be the first airline to offset all its carbon emissions “on behalf of passengers” at a surprisingly low cost of £25m



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for the year to end September 2020. British Airways itself will be offsetting all domestic UK flights from 2020.

However, IAG (and the industry) still has an uphill struggle with its ESG aims. Neither the ETS nor CORSIA schemes are easy to understand by the man in the street, and on the face of it they may be subject to “double counting” and, with offset schemes, validation. Various press articles suggesting that this is “greenwashing”, may undermine the underlying PR message.

Air Europa: latest member of the IAG family

A couple of days before the group’s Investor Day IAG announced that it had agreed to acquire Air Europa, Spain’s third largest airline, for €1bn. The deal is subject to approval from competition authorities and is expected to be completed within 12-18 months.

Air Europa was founded in 1986 by the UK AIT operator ILG, in its initial attempts to take advantage of European deregulation. On ILG’s failure in 1991 it was acquired by privately-owned travel agency/hotel company Globalia. It operates a fleet of 63 aircraft: 20 737-800, 10 A330s, 14 787s,

11 ERJ-195s and 8 ATR-72s. It has outstanding orders and options for 20 737MAX and 16 787s (originally designed respectively to replace the older 737s and A330s). In 2018 it carried 11.8m passengers and apparently generated operating profits of €100m on sales of €2.1bn.

Air Europa operates scheduled flights to 69 destinations in Europe, North, Central and South America (and a couple in Africa). Half of its seat capacity is on its domestic Spanish network where it has a 14% share of capacity behind Vueling and Iberia/Iberia Express.

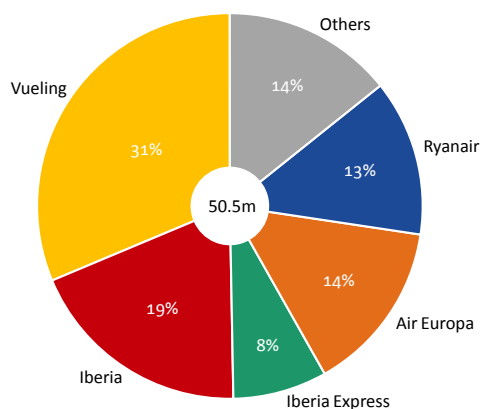
It is useful to be able to acquire a domestic competitor, but the combined group’s share of the local market would rise to 72% and could cause some concern to the competition authorities. But the main interest for IAG is on the South Atlantic where Air Europa has a reasonably strong presence. And this focus became more obvious after losing its potential JV alliance with LATAM after Delta stole that carrier from underneath the oneworld umbrella. Air Europa also was granted permission earlier this year to operate domestic services in Brasil after the country relaxed ownership restrictions.

Combined, Iberia and Air Europa operations from Madrid would give them a leading 21% share of seat capacity between Europe and Central/South America, overtaking Air France-KLM’s 20% share from its hubs in Paris and Amsterdam. A re-organisation of the wave structure at Madrid could consequently strongly improve the competitive position for the airport on the South Atlantic.

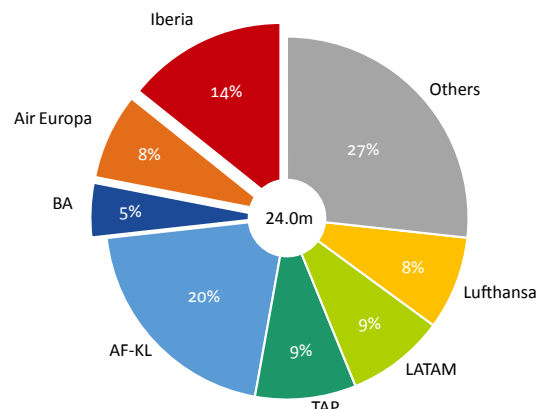
IAG has stated that it will for the time being retain the Air Europa name, but that in the longer term it may be sensible to rationalise its Spanish “brands”.

This acquisition will be the fourth the group has made since its foundation from the combination of British Airways and Iberia in 2013 (fifth if you include the bmi acquisition which was all about slots at Heathrow) and should be relatively easy to slot into the group’s structure. Management has commented that it expects the deal to be earnings enhancing from the first year, and for full synergies to accrue from integration in the group’s existing joint businesses, loyalty programme, and aligning commercial practices and sales forces in home markets by 2025.

SPAIN DOMESTIC SEAT CAPACITY



SOUTH ATLANTIC SEAT CAPACITY



“It was the spring of hope”:

Air France-KLM targets sustainability

PARIS in November saw the first Air France-KLM investor day for two and a half years. With a new CEO in place the group no doubt considered it was time to try to show that what has been Europe’s laggard airline group now really had something positive to say. What the markets really wanted to hear was the ability for the group to achieve financial sustainability.

Group CEO, Ben Smith, started off by thanking the group’s employees, emphasising that they are the group’s top asset, and stating the obvious that the business revolves round its customers. He continued by revealing that the group would pursue a new value-focused model for all stakeholders — a leading employee promoter score (the best place to work), a leading net promoter score (exceed customer expectations) and satisfy shareholders by reaching top financial performance. All this is to be surrounded by a “commitment to global environmental sustainability” (not that he went into the details on the subject in contrast to the IAG event in London).

This new model seems to be based on three main planks: optimising the operating model; growing profitable passenger revenue; and leveraging European consolidation. Oh, and they also want to develop customer data, the Flying Blue loyalty programme and engineering and maintenance.

Smith had come into a company group with what he saw as an unclear value proposition. He has tried to clarify that. He ditched the ill-conceived Joon (a half-hearted

union-bashing exercise), and moved the loss-making French regional HOP! (the only airline in the world with an exclamation mark in its name) back into Air France to leave three master brands: Air France (“showcasing the best of France round the world”), KLM (“strong innovative global brand”) and Transavia (“making low cost feel good”).

He claimed that there now is a clear road map for each of the airlines in the group. KLM will continue to develop its current successful business model. Air France will “leverage its unique assets to build a successful model, one step at a time”. Transavia will “fully leverage its brand power and new-found (French) flexibility”.

This is brilliant marketing-speak that all good airlines employ when trying to convince employees, shareholders and customers that they know what they are talking about. But the underlying message of the day was that Ben Smith is seriously going to try to turn Air France round,

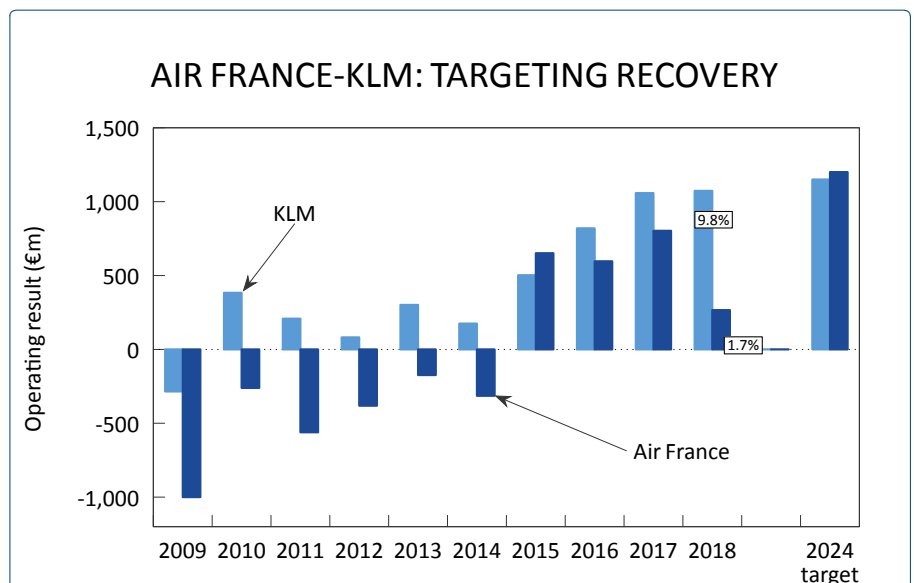
narrow the gap between it (on a sub-2% operating margin at the peak of the cycle) and the well-run KLM (on a respectable 10%).

Fleet

One of the first steps is to clean up the Air France aircraft fleet, accelerating the replacement of old fuel-inefficient equipment and reducing the complexity of sub-fleet types. Air France will ditch its ten A380s (although less than ten years old) before they need to undergo expensive heavy maintenance. It will accelerate the replacement of its A340s and concentrate on a long haul fleet of A330s, A350s (of which it has 26 on order, and which will have flight deck commonality) and 777s/787s.

On short haul, Air France has signed an MoU to acquire 60 A220s to replace its aging A318s and A319s — although it has yet to decide on a replacement for its larger A320/A321 fleet.

The regional fleet — especially in



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AIR FRANCE-KLM GROUP FLEET

		avg age	Air France	KLM	Transavia	Orders
Regional	E145	19.4	13			✗
	E170	12.4	15			✗
	E175	2.5		17		✓
	E190	8.0	15	32		✓
	E195					✗
	CRJ700	15.5	11			✓
	CRJ1000	8.4	14			✓
	ATR72	4.3	3			✗
	Total		71	49		
Narrowbody	A220				60	✓
	737NG	10.4		51	80	✓
	A318	14.6	18			✗
	A319	18.5	33			✗
	A320	10.3	43			✓
	A321	17.1	20			✓
	Total		114	51	80	60
Widebody	A330	17.1	15	13		✓
	A340	21.3	4			✗
	A350	0.2	2		26	✓
	A380	8.9	10			✗
	787	1.8	9	16	13	✓
	777	14.2	70	29	2	✓
	747-400	24.6		10		✗
	747-400F	19.7		4		
	Total		110	68	41	
	Total Fleet		295	168	80	101

France — is a mixed bag of seven types. It will be disposing of the last of its ATR72s, Embraer 145s and E170s to concentrate on E175/E190 and CRJ 700/1000s.

This will reduce complexity: the number of cockpit types will fall from nine to between five and seven (depending on whether it can get common pilot rating on the long haul Boeing aircraft).

KLM meanwhile will concentrate on the 787 and 777 for its long haul operations (which already have common pilot rating) disposing of its A330s and ancient 747s and cutting its number of cockpits from five to three.

Network

Air France is still heavily loss-making on regional and short haul services. It has stated in each of the last ten years that “in the next year or two it will break even”. On one of the investor day charts the management showed that the regional operation was still losing €190m a year, and that its current plans suggested only that it might be able to halve those losses by 2021 and breakeven in 2023. It makes one wonder why they really bother. But Air France has a particular problem: it is politically required to provide services from the regions to Paris, and domestic transverse routes

avoiding Paris, even in the face of competition from the TGV (and in spite of a recent call to ban domestic air travel to counter global warming). All part of the 1970s domestic policy of *pôles d'équilibres*.

Once again it laid out plans to improve profitability on its domestic shuttle routes into Orly, and indeed (with Transavia) improve the utilisation of the valuable slots at Paris's constrained but convenient second airport.

Revenue mix

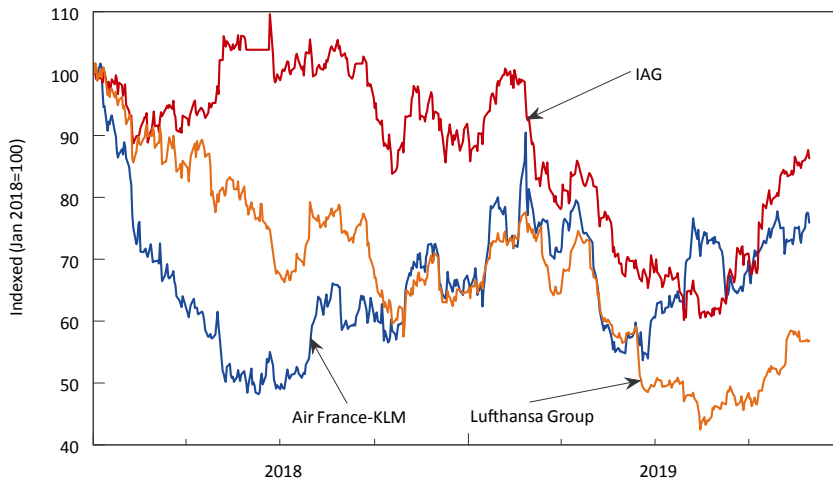
More surprising in the management presentation was an admission that the former agreement with the unions made at the time of the merger with KLM to “balance growth” between the two companies had been a complete disaster. This agreement had been made on the basis of ASK growth and block hours performed. The latter had a material impact on pilot performance. The former ignored the fundamental difference between the two companies: KLM is a successful sixth freedom network carrier with minimal direct point-to-point traffic and a necessarily high density configuration; Air France has strong point-to-point O&D demand based at the second largest conurbation in Europe.

But through this agreement Air France was “forced” to under-supply premium seating and maximise loss-making economy (the seats at the back of the bus can produce three times as many ASKs as those at the front). Smith pointed out that in the last five years total long haul premium ASKs from Paris had risen by 5%, but that Air France's own premium ASKs had fallen by 4%.

Quite remarkably, Ben Smith and his team have been able to renegotiate a new, more flexible agree-

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EUROPEAN NETWORK GROUPS: SHARE PRICE PERFORMANCE



they say they will lobby to improve the competitive position of French aviation).

The greatest focus is on building returns from Air France itself by increasing its operating profits by €900m — of which €400m is anticipated to come from a simplification focus and restructuring the French domestic network; €300m benefit from the fleet renewal, disposal of the A380s and phase in of A350s, A220s and 787s; and a further €200m from revenue mix optimisation. By 2024 they would hope to have group operating profits of €2.5bn, and stated that they might even then be able to restore dividend payments.

ment with the SNPL pilots which inter alia replaces the ASK metric with a new formula based on maximum seating capacity of the aircraft and removes the former restrictions on the maximum number of aircraft at Transavia France. Air France is now going through the process of right-sizing cabin configurations to boost first, business and premium economy offerings.

The overall target is to bring the group's operating margins up to around 7-8% on a mid-cycle basis from the current 2019 consensus 4% (€1.15bn). They say that they can't achieve better because social costs in France are so high — in fact the highest in Europe — and there are some €300m additional tax burdens for operating at the Paris airports in contrast to Amsterdam. (But

One of the equity analysts asked the management what was really going to be different in this attempt to restructure Air France towards financial sustainability. Ben Smith, Group CEO, Frédéric Gaget, Group CFO and Anne Rigail, Air France CEO, all responded that there was a new-found social cohesion with the French unions. Pieter Elbers, CEO at KLM shrugged his shoulders as if to say "we'll see".

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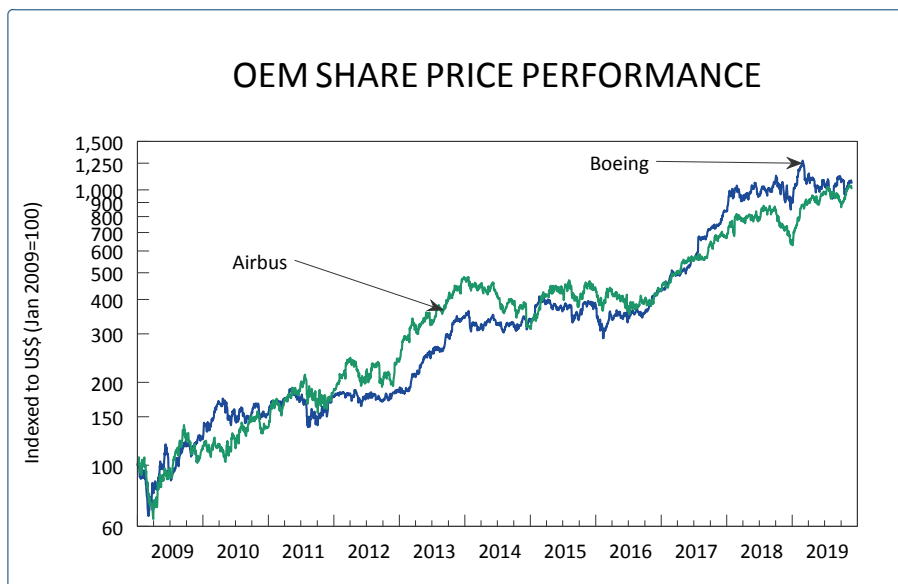
Boeing: When will there be good news?

THE 737 MAX fleet remains parked, the return to service date is uncertain, deliveries this year are half those of 2018, Boeing is being assailed by lawsuits, attacked by Congressmen, key customers are losing patience. But maybe Boeing has touched the nadir and has positioned itself for a recovery over the next two years.

The net result for the first nine months of 2019 was a profit of \$374m in contrast to \$7.0bn in the same period of 2018. Total revenues fell to \$58.6bn from \$72.8bn, approximately \$5.6bn of the \$14.2 decline being due to a charge in respect of expected 737 MAX liabilities. Boeing's deliveries totalled just 302 aircraft in the first nine months of 2019, down 47% on the same period in 2018; it should be noted that aircraft sales are only accounted for as revenue when the aircraft is completed and accepted by the customer.

The commercial airline segment actually reported a \$3.8bn loss at the operating level, equivalent to a margin of -15.3%. The overall result was rescued by strong performances in Defense and Global Services, which both maintained double digit operating profit margins.

As for the 2019 full-year, Boeing is, understandably, not offering any guidance. Indeed, the Q3 presentation by Dennis Muilenburg, the CEO but no longer the Chairman, that role having been transferred to Dave Calhoun, formerly of GE, Caterpillar and Blackstone, contained just four slides, the first two of which referenced the victims of the Lionair



and Ethiopian Airlines crashes and focused on “strengthening the culture of safety at Boeing and Boeing and industry-wide”.

We think that the most useful way of looking at the OEM's financials is through the cashflow reports (see *Aviation Strategy*, April 2019); Boeing's is summarised in the table on the next page.

Focusing on the latest nine months cashflow, as mentioned above, the net result fell to \$0.4bn from \$7.0bn but the even more serious development was the collapse in operating cashflow (ie, the

P&L adjusted for non-cash items like depreciation and changes in assets/liabilities) to a negative — (\$0.2bn) from a strongly positive \$12.4bn in 2018.

The main reason was the huge additional amount of cash — \$9.5bn — used to build up inventories; Boeing cut production of the 737 MAX to 42 a month from 52 before the grounding in March but it has mostly maintained its global supply chain running at the previous rate so it can ramp up quickly after the MAX returns to service. Cash in from Pre Delivery Payments (PDPs) fell by over \$1bn

BOEING OPERATING RESULTS BY SEGMENT

(\$ Billions, Jan-Sept. 2019)	Revenues	Operating Result	Margin
Commercial Airplanes	24.8	-3.8	-15.3%
Defense	20.3	2.6	12.8%
Global Services	13.8	2.1	15.2%
Others and Eliminations	-0.3		na
TOTAL	58.6	0.9	1.5%

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BOEING CASHFLOW ITEMS

BOEING (US\$ Billions)	Jan-Sep		Full year							Total	
	2019	2018	2018	2017	2016	2015	2014	2013	2012	2012-18	
Total Revenue	58.6	72.8	101.1	94.0	93.4	96.1	90.7	86.6	71.2	633.1	6%
Net Result	0.4	7	10.5	8.4	5.0	5.2	5.4	4.6	3.9	43.0	18%
Operating Cashflow	-0.2	12.4	15.3	13.3	10.4	9.4	8.8	8.2	7.5	72.9	13%
Capex/Net Investments	-2.1	-2.2	-4.6	-2.1	-3.4	-1.8	2.5	-5.1	-3.7	-18.2	4%
Free Cashflow	-2.3	10.2	10.7	11.2	7.0	7.6	11.3	3.1	3.8	54.7	19%
Increase/Decrease in Debt	10.7	0.8	1.3	1.4	0.2	1.3	-0.4	0.1	-2.2	1.7	
Share Buy Backs	-2.9	-8.7	-9.0	-9.3	-7.0	-6.7	-6.0	-2.8	0.0	-40.8	
Dividends	-3.5	-3	-4.0	-3.4	-2.8	-2.5	-2.1	-1.5	-1.3	-17.6	21%
Total financial Flows	4.3	-10.9	-11.7	-11.3	-9.6	-7.9	-8.5	-4.2	-3.5	-56.7	22%
Net Change in Cash	2.0	-0.7	-1.0	-0.1	-2.6	-0.3	2.8	-1.1	0.3	-2.0	
Cash Balance (end period)	9.8	7.8	7.9	8.9	9.0	11.6	11.9	9.1	10.3	9.8	avg
Net Profit Margin	0.7%	9.6%	10.4%	8.9%	5.4%	5.4%	6.0%	5.3%	5.5%	6.8%	
Op. Cashflow Margin	-0.3%	17.0%	15.1%	14.1%	11.1%	9.8%	9.7%	9.5%	10.5%	11.5%	
Capex/Investments as % of Operating Cashflow	-1050.0%	17.7%	30.1%	15.8%	32.7%	19.1%	-28.4%	62.2%	49.3%	25.0%	
Share Buy Backs/ Dividends as % of FCF	-278.3%	114.7%	121.5%	113.4%	140.0%	121.1%	71.7%	138.7%	34.2%	106.8%	

compared with 2018; management has admitted that advance payments from customers for MAXes on order have all but dried up, and this effect is likely to show even more clearly in the Q4 results. Incidentally, operating cashflow also contains \$5.5bn in accrued liabilities as a positive adjustment — this is money allocated for

MAX compensation, but which has not yet been paid out.

Subtracting Capex/investments from Operating Cashflow gets us to Free Cashflow, which for Boeing this year was negative, (\$2.3bn), in contrast to a positive \$10.2bn in 2018. The basic question for corporations is: what to do with free cash? Which proportions to return to shareholders or pay down debt or add to reserves? Since 2014 Boeing's answer has been to be very generous to shareholders both through dividend payments and a share-buy-back programme, and it has not changed that policy despite Free Cashflow turning negative, maintaining dividends and continuing to repurchase shares, albeit at a reduced rate, throughout 2019.

Dividends and share buy-backs together totalled \$6.4bn in the first nine months of 2019 compared to \$11.7bn in the same period of 2018. The \$10.7bn increase in debt incurred by Boeing was partly necessary to cover these payments and to provide a relatively modest increase in cash,

Put another way, over the 12

months to end September 2019 Boeing increased borrowing by a net \$10.7bn but only \$2bn of this has gone to build up cash reserves while \$2.3bn went to cover the Free Cashflow deficit and a remarkable \$6.4bn was used to support the share price through dividend payments and share buybacks.

Cash and near-cash stood at \$9.8bn at the end of September. Although this sum is \$2bn above the 2018 equivalent, it is identical to the average end-period cash balance held by Boeing during the period 2012-18. Moreover, Boeing doesn't need additional cash just for the MAX crisis, as mentioned in the Q3 presentation, a large part of this year's debt build-up is intended for the purchase of Embraer.

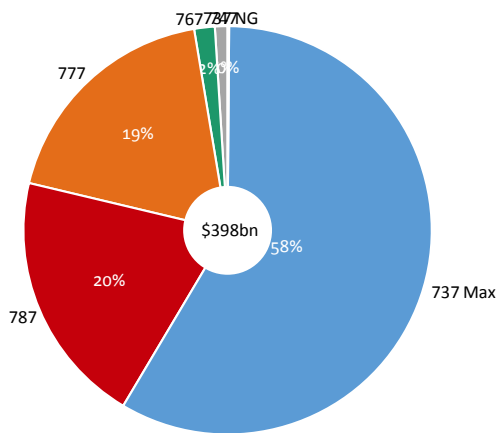
Contradicting the 737 MAX narrative, the share price (as at end November) was only 10% down from its early 2019 peak. Looking at the longer-term trend — a 1,200% increase over the past ten years (see chart on the facing page) — the MAX crisis appears to have scarcely

BOEING'S BALANCE SHEET

(\$ Billions, Sept. 2019)

Property and Plant	12.5
Intangibles (inc Goodwill)	12.7
Inventories	73.3
Cash etc	9.8
Other Assets	24.3
TOTAL ASSETS	132.6
Advances and PDPs	53.2
Other Short Term Liabilities	38.6
Pension Plans	19.0
Other Liabilities	1.6
Long-term debt	24.0
TOTAL LIABILITIES	136.4
EQUITY (DEFICIT)	(3.8)

BOEING ORDERBOOK BY TYPE



disturbed investors' valuation of the company. Most stockmarket analysts have focused on the maintenance of dividends and on news flow, retaining buy recommendations on the stock at least until this summer when some leading analysts downgraded to hold.

But the build-up of long-term debt, doubling to \$24bn over the past year, has undermined Boeing's balance sheet. According to Boeing's filed accounts, liabilities of \$136.4bn exceeded assets of \$132.6bn as at the end of September. This is quite difficult to absorb: Boeing, probably the US's most prestigious industrial corporation, has a negative net worth of (\$3.8bn) according to its own Form 10-Q filing yet the stockmarket is saying that it is worth \$207bn.

In normal circumstances the net asset value might be regarded as an accounting technicality as the liability side of the balance sheet contains \$53.2bn of advances and PDPs — in effect progress payments made before aircraft are delivered to the customer, a source of working capital and also an insurance against the cost of an airline cancelling its order. But if the manufacturer cannot deliver

the orders, then these PDPs become as real liability as customers reclaim their money.

A broader explanation is that the balance sheet deficit hugely underestimates Boeing's brand value. This seems to be the view of the equity analysts who have queued up to reassure investors that the balance sheet is nothing to be concerned about, while the chairman has stated in television interviews that the "strength" of Boeing's balance sheet (by which he probably means the capability of the company to continue to borrow at low interest rates) will get it through the MAX crisis.

S&P, along with the other credit rating agencies, has maintained Boeing's investment A grade though in the summer it downgraded its outlook to negative from stable, warning about the company's ability to generate operating cashflow to sufficiently cover debt repayments, "absent a more conservative financial policy".

There may be light at the end of the tunnel for Boeing. Once the MAX is returned to service Boeing's cash inflows should recover rapidly as PDPs and deposits from customers

resume and production rates can be geared up using the inventories that that have been built up and already paid for over the past year. This might turn cashflow around quite rapidly. And as a sign of resilience, Boeing was able to announce new commitments for 60 MAXes at the recent Dubai Air Show.

On the other hand, cash outflow for compensation related to the two crashes and to airlines who have had to park aircraft and have not received scheduled deliveries can only be roughly estimated at the moment. As at the end of September Boeing had allocated over \$5bn to cover liabilities, but this figure could double, according to industry analysts. Note that the \$5bn is not a cash reserve — it is an amount that Boeing has committed to pay out of cashflow.

Boeing does seem to have acknowledged that it cannot continue to be as generous to shareholders. CFO Greg Smith confirmed at the Q3 results presentation that the share buy-back programme has been paused (until 2021?). Share buy-backs accounted for \$2.9bn in the nine months to September, well down from \$8.7bn in the same period of 2018, but still, according to our analysis, unjustifiable in the context of the MAX crisis, putting unnecessary stress on cashflow. It appears at the moment that Boeing intends to maintain its dividend payments.

So cashflow in the short/medium term is delicately balanced, with another major round of borrowing very probable, and dependent on a smooth return to service for the MAX.

Just how critical the 737 MAX is to Boeing is illustrated by the pie chart above; the MAX accounts in value terms (estimated actual prices rather than list prices) for 58% of

Boeing's firm commercial backlog, almost three times as much as the 787 Dreamliner. So what is the likely timescale for restoring the MAX to operational status?

In October Boeing completed its redesign of the MCAS and delivered the software package to the FAA along with a manual of safety improvements. The Technical Advisory Board (TAB), a body of experts from the DoT, NASA, and the USAF, tasked with reviewing Boeing's actions, has approved the redesign in a preliminary report to the FAA.

The next step is ongoing simulator training in the US under the auspices of the FAA's Flight Standards Board (FSB) as well as in all countries where the MAX will operate. The International Joint Operational Evaluation Board, representing European, Canadian and Brazilian regulatory bodies, will also submit its recommendations to the FSB.

Furthermore, the FAA has decided that it will certify each individual MAX being returned to service or delivered to customers. This reverses the policy of allowing Boeing to self-certify its own aircraft, a policy that was justified on the grounds that Boeing had better resources and technical expertise. This change will presumably slow the process of returning the full fleet to service. EASA has further complicated the situation by stating that it will no longer automatically follow FAA decisions on Boeing aircraft licensing but will perform its all independent certifications.

A key certification flight is scheduled for December. Boeing has stated that a dry-run of the test was successful.

The FAA can only recertify the MAX until after the test flight and pilot training recommendations are fi-

AIRBUS OPERATING RESULTS BY SEGMENT

(€ Billions, Jan-Sept 2019)	Revenues	Operating Result	Margin
Airbus (Commercial)	35.1	3.4	9.7%
Defence	7.7	0.1	1.3%
Helicopters	3.4	0.2	5.9%
Others and Eliminations	0.0	(0.3)	na
TOTAL	46.2	3.4	7.4%

nised. EASA will run a parallel process to roughly the same timetable as the FAA, aiming for competition by the end of January. Other regulators will follow their own schedules, and there is no guarantee that all these bodies will recertify at the same time as the FAA, or indeed recertify at all. How CAAC will act is a major uncertainty.

Then the operating airlines have to install the new MCAS software, recommission the parked MAXes, agree processes with the pilots unions and complete pilot training — two months at minimum.

So it would appear that the earliest that the MAX would back in service would be late March, a year af-

ter the grounding. The two most important MAX customers, in terms of achieving credibility for the type — Southwest and Ryanair — were tentatively scheduling early March for a restart but this now looks optimistic.

Ryanair, currently with no MAXes in its fleet but 135 on order, had been planning for 20 operational MAXes in the summer of 2020 but in a recent briefing to pilots this was downgraded to 10. Still, the airline is trying to secure at least 50 delivery positions for Max jets for 2021. Southwest has 34 parked MAXes and 310 on order; its aim is to get about 76 units operational by summer 2020. These two airlines are critical to restoring confidence in the type in Europe and North America.

Meanwhile at Airbus

A fundamental reason for investors' resolute support for Boeing might be attributed to the fact that it has only one competitor and there are no other viable alternatives for the foreseeable future. And Airbus simply does not have the capability to ramp up production to take advantage of any shortfall from Boeing.

Airbus's own target was for 890 deliveries this but by the end of the third quarter this year had been downgraded to 860. Airbus has had its own production issues, though on a different scale to Boeing's: the A380 production line is being wound down with the cancellation of this

AIRBUS'S BALANCE SHEET

(€ Billions, Sept 2019)

Property and Plant	17.1
Intangibles (inc Goodwill)	16.6
Inventories	35.6
Cash etc	4.6
Other Assets	40.4
TOTAL ASSETS	114.3
Advances and PDPs	40.4
Other Short Term Liabilities	31.8
Pension Plans	11.4
Other Liabilities	6.4
Long term debt (inc Govt funding)	19.6
TOTAL LIABILITIES	109.6
EQUITY (DEFICIT)	4.7

AIRBUS CASHFLOW ITEMS

AIRBUS (€ Billions)	Jan-Sep		Full Year							2012-18	
	2019	2018	2018	2017	2016	2015	2014	2013	2012	Total	CAGR
Total Revenue	46.2	40.4	63.7	59.0	66.5	64.5	60.7	57.8	56.5	428.7	2%
Net Result	2.2	1.5	3.1	2.4	1.0	2.7	2.3	1.5	1.2	14.2	17%
Operating Cashflow	-3.9	-4.3	2.3	4.4	4.4	2.9	2.6	1.8	3.8	22.2	-8%
Capex/Net Investments	-1.6	-1.0	-1.6	-2.5	-0.8	-3.5	-3.2	-1.6	0.0	-13.2	
Free Cashflow	-5.5	-5.3	0.7	1.9	3.6	-0.6	-0.6	0.2	3.8	9.0	-25%
Increase/Decrease in Debt	1.9	0.1	-2.0	1.3	1.7	1.5	1.3	-0.6	3.6	6.8	
Share Buy Backs	0.0	0.0	0.0	0.0	-0.8	-0.3	0.0	0.0	0.0	-1.1	
Dividends	-1.3	-1.2	-1.2	-1.0	-1.0	-1.0	-0.6	-0.5	-4.0	-9.3	-18%
Total financial Flows	0.6	-1.1	-3.2	0.3	-0.1	0.2	0.7	-1.1	-0.4	-3.6	41%
Net Change in Cash	-4.9	-6.4	-2.5	2.2	3.5	-0.4	0.1	-0.9	3.4	5.4	
Cash Balance	4.6	9.4	10.7	13.2	11.0	7.5	7.9	7.8	8.7	9.5	avg
Net Profit Margin	5.5%	3.7%	4.9%	4.1%	1.5%	4.2%	3.8%	2.6%	2.1%	3.3%	
Op. Cashflow Margin	-9.7%	-10.6%	3.6%	7.5%	6.6%	4.5%	4.3%	3.1%	6.7%	5.2%	
Capex/Investments as % of Operating Cashflow	-41.0%	-23.3%	69.6%	56.8%	18.2%	120.7%	123.1%	88.9%	0.0%	59.5%	
Share Buy Backs/ Dividends as % of FCF	-23.6%	-22.6%	171.4%	52.6%	50.0%	-216.7%	-100.0%	250.0%	105.3%	115.6%	

programme and the A320/321 neo ACF (Airbus Cabin Flex) ramp-up, in Airbus's own words, "remains challenging".

In the first nine months of 2019 total revenues increased by 14% to €46.2bn compared to the same period in 2018. At the net level Airbus reported a €2.2bn profit, up from €1.5bn in 2018. Almost all this profit was generated in the Commercial division with Defence and Helicopters making marginal contributions. For 2019 as a whole, guidance is for a 15% profit increase to about €2.6bn. This will be the first time that Airbus has outperformed Boeing financially — during 2012-18 Boeing's net profit margin, 6.8%, was over twice Airbus's 3.3%.

However, operating cashflow was strongly negative at (€3.9bn), as it was in the first three quarters of 2018, although the full year showed a positive effect. Airbus' does not provide as much detail as Boeing on these cash items, but it did highlight a large negative change in working capital of (\$8.2bn), presumably caused by a

slowdown in PDPs and/or a speed-up in Airbus's payments to suppliers.

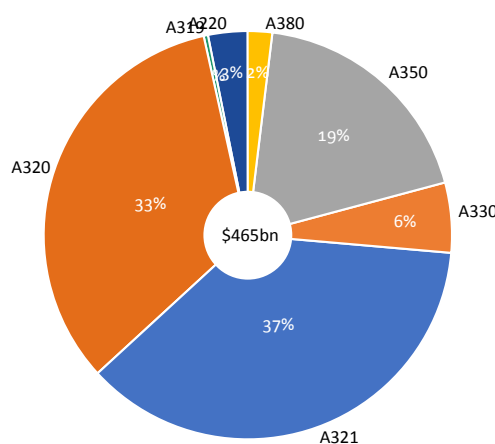
Free Cashflow was also strongly negative at (€5.5bn). Nevertheless, Airbus improved its dividend to €1.3bn. With net borrowing increasing by €1.9bn, its cash balance was reduced to €4.6bn from €9.4bn over the 12-month period from September 2018.

In effect, Airbus has been duplicating Boeing's financial strategy,

talking advantage of ultra-low interest rates to borrow money to help fund dividends and share back-backs. Indeed, Airbus has been the more aggressive in this regard: during 2012-18 its dividends exceeded Free Cashflow by 15.6% while Boeing's outflow on dividends and share repurchases was in total 6.8% above the amount generated by its Free Cashflow.

The graph on page 8 clearly shows Airbus's share price closely tracking

AIRBUS ORDERBOOK BY TYPE



Aviation Strategy

Boeing's. It is remarkable that the MAX crisis has hardly differentiated the trendlines.

It appears that both OEMs have been returning cash to shareholders at close to their limit to do so. It could be argued that the duopoly has not produced super-normal profits, but it has created super-normal shareholder return. Whether this strategy is sustainable — or desirable given the controversy about revamping existing families rather than embarking on new designs — is a valid question for the OEMs.

Boeing/Airbus and tariff retaliation

Boeing and Airbus have also been caught up in a mutually destructive trade war, with the WTO arbitrating on complaints from the US and the EU.

The first case, which started back in 2005, relates to US complaints of unfair subsidies across the entire Airbus range mostly in the form of launch aid.

The original rationale for launch aid was that it remedied a market

deficiency in the provision of investment for companies to undertake large-scale projects that only generate a return in the long-term. European governments put in funds at the start of development projects and continued to fund them until deliveries commenced. Then the manufacturers had to repay the aid at commercial interest rates with payments made on each aircraft or aeroengine delivered (if a type failed to sell the were no repayments).

Although launch aid had been phased out in Europe, in the UK at least, the WTO found in September found that Boeing had suffered from unfair competition across its range of commercial jets, and the US was a entitled to retaliate by imposing tariffs on \$7.5bn every year on European goods exported to the US (and specifically 10% tariffs on Airbus products).

How the \$7.5bn/year figure was arrived at is unclear. As a comparison, about 11% of Airbus's entire firm orderbook, about \$44bn, is directly destined for US customers but only 3% or \$11bn of the total is equipped with purely European engines).

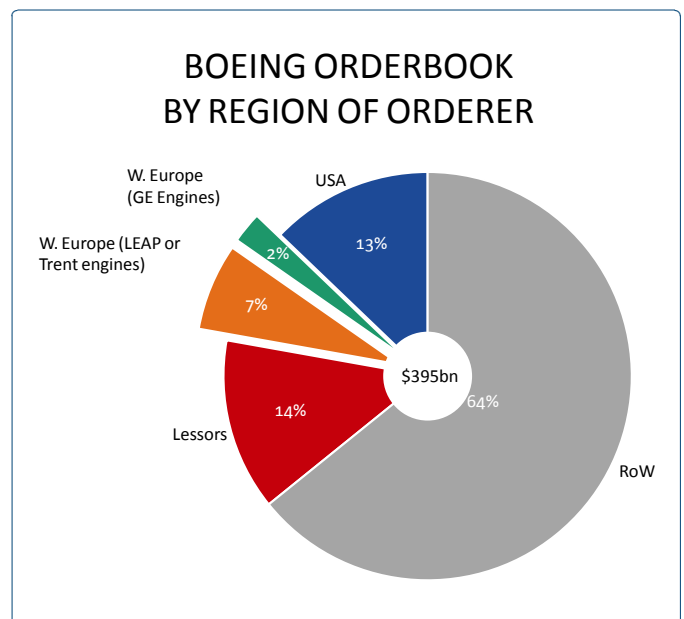
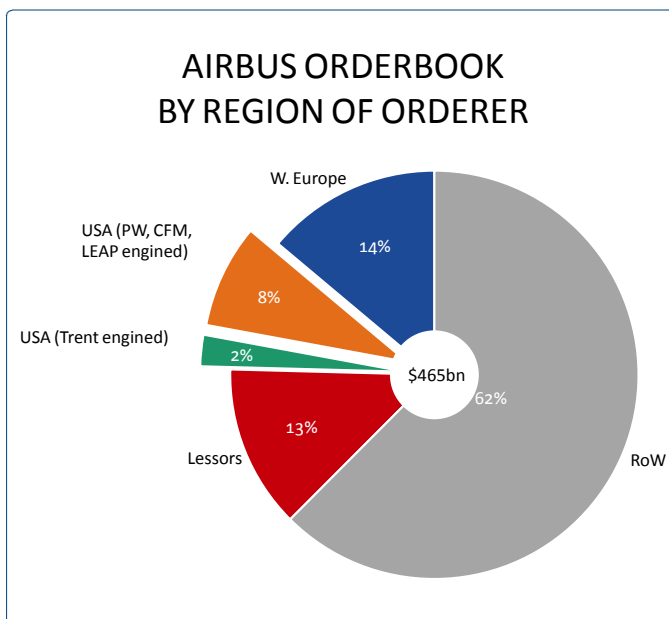
The result is that Scottish whisky

distillers, French vintners and Italian cheese-makers are being hit with new tariffs and being forced to pay for Airbus's misdemeanours.

The second complaint, which started in 2006, from the EU against Boeing for exactly the same amount of alleged subsidies, \$20bn, as in the US case. The complaint lists unfair subsidies to Boeing from NASA, the US DoD and the US DoC plus various tax incentives and other support from the states of Washington, Kansas and Illinois. (The state of Alabama which provided support in the establishment of Airbus's assembly plant at Mobile is not included).

The WTO is expected to rule in the near future, and it would not be surprising if the penalty was pretty similar to that in the US case. Again for comparison, about 14% of Boeing's total firm orderbook, about \$28bn, is directly destined for European airlines but only 2% or \$10bn of the total is equipped with purely US engines.

It is very difficult to see sense in this double-edged tariff war.



Virgin Atlantic: Once in a generation slot reform

VIRGIN Atlantic's announcement in September that it planned to operate up to 84 new routes from London Heathrow, assuming the third runway is eventually built, certainly caught the headlines. The plan, according to Virgin, is to challenge British Airways' dominance at the airport by operating 37 new European routes, 12 new UK routes and 35 new long-haul routes. At present Virgin Atlantic serves just 19 intercontinental destinations. It is proposing that it should be awarded, presumably at no cost, over 40% of the new slots which will become available with the construction of a new runway.

This isn't the first time that Virgin Atlantic has threatened to challenge BA's dominant position in UK aviation in general, and at Heathrow in particular. Indeed, throughout its existence, since 1984, Virgin has been engaged in a running battle with its larger competitor, although the confrontation's intensity (and headline grabbing) has declined in recent years, coinciding with Delta's purchase of a 49% stake in the UK carrier. Unlike other would-be challengers to BA, Virgin Atlantic has at least survived, but it never really made the breakthrough it sought to establish itself as a major threat to the larger carrier.

Key to Virgin's new plans at Heathrow is the reform of the airport slot allocation rules. Only by adopting a radically different approach, it argues, can more competition be introduced, and therefore fares be reduced. Virgin points out that the UK

Government's own recent Aviation Strategy Green Paper argued that increasing competition to the benefit of consumers should be one of the prime objectives of government policy.

A new Heathrow runway will permit some 280,000 additional annual aircraft movements (up from 476,000 to 756,000), about 350 more slot pairs each day. At present, BA and its associated airlines dominate the airport. IAG carriers control 55% of all Heathrow slots (51% for BA, 3% for Aer Lingus and about 1% for Iberia and Vueling).

This may be significantly less than the dominance achieved by other major airlines at their home hubs, but still means that no other carrier can come remotely close to matching BA's position at Heathrow. Virgin Atlantic has just 3% of the slots at the airport and ten other airlines each have between 1 and 3%, accounting for 23% in aggregate (including Virgin). This leaves a long tail of 72 other carriers using the remaining 22% of slots, each with less than 1%.

The rules governing the allocation of slots at Heathrow follow EU law and IATA's Worldwide Slot Guidelines. Central to them is the principle of grandfather rights, under which an airline can keep a seasonal slot at a capacity constrained airport in perpetuity as long as it uses the slot at least 80% of the time. Grandfather rights have been controversial, but they have benefits, not least allowing carriers to plan their networks over the longer term. They create an element of certainty and without them,

it is argued, airlines would be less willing to invest in and develop routes.

The downside is that grandfather rights cement into place the current industry structure, characterised by national flag carriers dominant in their home markets. They provide a major barrier to market entry. Where airport capacity is restricted, such as at Heathrow, new entrants find it difficult, often impossible, to gain access. The result is less competition and higher fares. It is significant that there are no easyJet or Ryanair flights from Heathrow. Neither the growth of low-cost carriers nor the adoption of secondary slot trading has significantly changed the situation at London's premier airport.

Between 2013 and 2019, according to an analysis carried out by the UK Competition and Markets Authority (CMA), only some 50 Heathrow slots have been bought in the secondary market, and many of these were traded between alliance or joint venture partners. This does not suggest a liquid market. It is not surprising, therefore, that slot holdings have remained remarkably constant. Perhaps the point that stands out most from the table on the next page is the fact that Virgin Atlantic's share of Heathrow slots has actually declined from 5% in 2014 to 3% in 2018, which opponents have not been slow to suggest is hardly consistent with its new demands. BA has pointed out that had Virgin taken advantage of, and been able to afford, the Heathrow sales which have arisen over recent years, it would now have almost 20% of the airport's total slots.

Heathrow Slot Holdings (%), 2014 - 2018

	2014	2015	2016	2017	2018
BA	51	51	52	51	51
Aer Lingus	3	3	3	3	3
Virgin Atlantic	5	4	3	3	3
Lufthansa	4	3	3	3	3
American	2	2	3	3	3
United	2	2	2	3	2
Eurowings			1	1	2
Swiss	2	2	2	2	2
SAS	3	3	3	3	2
KLM	1	1	1	2	2

Source: CMA analysis of CAA data

Market in Airport Slots, Institute of Economic Affairs, London, 2003.)

Challenging the status quo

Having been relatively quiet on this front for some time, Virgin Atlantic has now decided to challenge the status quo again by campaigning for new slot allocation rules. In the words of Shai Weiss, Virgin's CEO: "We have a once-in-a-generation opportunity to transform the market." Essentially it has reverted to its original proposal, demanding more slots to enable it to compete with BA, rather than tinkering with the Regulation itself. The chances of success may be no greater than previously given the relatively crude nature of its demands, despite the decline in BA's political support. But there are some interesting omens to suggest that at least with respect to more general reform of the slot rules, all may not be lost. And some of the ideas being floated are really quite radical.

Interestingly, Virgin has received support from Heathrow Airport. According to John Holland-Kaye, Heathrow CEO: "The new runway presents a massive opportunity to lower fares, but we need a scale player that can compete with BA.... To do that there has to be a change in the slot rules." There is no love lost between Holland-Kaye and IAG's Willie Walsh. The Guardian recently reported that Heathrow has accused BA of acting against "the consumer and national interest" by attempting to slow down the expansion of the airport, while Walsh has argued that Heathrow is an inefficient monopoly building a far too expensive runway which eventually the airlines will have to pay for.

The new runway at Heathrow, on the optimistic assumption that it will ever be built, will add a substantial

Virgin and slot access

To a large extent both the structure and growth of Virgin Atlantic have been dictated by its access, or lack of it, to airport slots. Launched as a Gatwick operator, Virgin was transformed, maybe saved, when UK government policy changed in 1991 to permit Heathrow services. Without this decision it is unlikely that the carrier would still be around today. However, the difficulty in obtaining Heathrow slots throughout its existence meant that Virgin was never able to operate more than a tiny handful of short-haul services and therefore create hub feed.

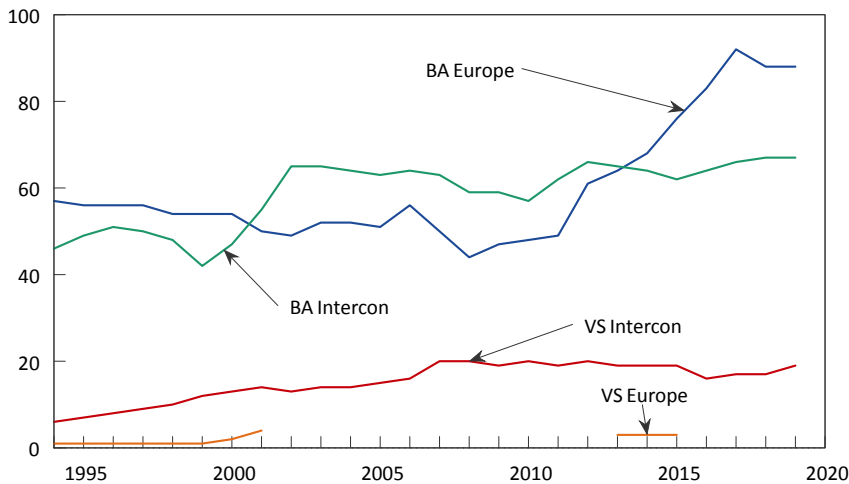
Of necessity, it became a specialised long-haul operator, with a relatively small number of routes. Some have even suggested that this limitation, while in many ways making life more difficult, may actually have saved the company, especially with a majority owner like Sir Richard Branson, known for his willingness to enter new markets in the face of fierce competition.

In the early 1990s, Virgin launched a campaign to obtain more Heathrow slots. Essentially its argument was quite similar to

the one it is advancing today: we will provide competition to BA, but need more Heathrow slots to do so. Given the influence which BA still had in Whitehall at the time, it is not surprising that the campaign failed to make any progress. Later Virgin adopted a more sophisticated approach, directing attention towards the need to reform grandfather rights and thereby increase the availability of slots for new entrants.

Virgin argued that access to slots for airlines such as itself would be much easier if instead of being granted effectively in perpetuity, slots were allocated only for a limited period, say 10 years at a time. 10% of slots at an airport could be returned to the pool each year and re-allocated, with the original 'owner' having the opportunity to bid for them again, but of course having no guarantee of getting them. It is easy to see why such an approach was attractive to an airline such as Virgin Atlantic, desperately trying to establish itself at Heathrow. But it failed to attract support from a single other carrier, let alone governments and regulators, although it did generate interest from academics and think tanks. (See, for example: 'A

VIRGIN AND BA: DESTINATIONS SERVED FROM HEATHROW



number of slots, virtually all of which will quickly be taken up. The EU Slot Allocation Regulation is designed essentially to deal with little more than a trickle of new slots each season, not the situation likely to be found at Heathrow.

Ironically, one particular problem involves the clause in the Regulation designed specifically to improve airport access for new entrants. Such airlines, defined as carriers with less than five daily slots at the airport in question or less than 4% of the slots at the relevant 'airport system', are given priority for 50% of any new slots which become available each season.

Few airlines currently serving London, including non-Heathrow carriers such as easyJet and Ryanair, would satisfy these criteria, with the result that a large proportion of the new slots are likely to go to small airlines with very limited market presence. It is not obvious that this will lead to a significant increase in effective competition and challenge the dominant carrier at the airport.

There is also the issue of how the new runway capacity will be financed. The regulator, against the wishes of the airlines, is supporting the airport's proposal for pre-funding. This will mean that the current Heathrow carriers will be paying for the new runway long before it becomes operational. If the EU Regulation is applied, therefore, those paying for the runway will essentially be subsidising their future, new entrant competitors, with no guarantee of receiving additional slots themselves.

Heathrow expansion and slot allocation

There seems to be a growing acceptance that Heathrow expansion requires a very different approach to slot allocation. Brexit provides an opportunity for the UK to take unilateral action in this regard, unless the Government commits to applying European rules even after (if?) the country has finally left the EU. The Government's Green Paper on future aviation policy, now out of its consulta-

tion period, openly discusses reform of the slot allocation system, with options ranging from relatively modest changes to its administration to a more radical market-based approach. Reserving slots for additional domestic routes to increase Heathrow's connectivity seems very likely to form part of any reform.

A very significant intervention in this debate came with the submission to the Green Paper consultation by the influential CMA, the body charged with regulating competition in the broader economy. In a lengthy and well-argued paper, the CMA highlighted many of the shortcomings of the current Slot Regulation, particularly when applied to an airport such as Heathrow. According to the CMA, "there is a clear case to reform the slot allocation mechanism to maximise efficient use of scarce capacity and promote competition between airlines. Without reform to the current system, the potential benefits arising from competition from new capacity at Heathrow may be lost."

Much of the CMA analysis will be music to Virgin's ears, not least the comment that "the current administrative allocation mechanism has made it difficult for a second network carrier to establish a significant presence at London Heathrow because they cannot get a sufficient portfolio of slots....[C]arriers with significant slot holdings can restrict competitors' access to slots. This constrains competition between airlines and therefore the resultant benefits to consumers, businesses and the economy."

However, what Virgin will probably be less keen on is the CMA proposal to add primary to the current secondary trading of slots. In other words, the Authority wants to see the

sale of slots as they become available, either from the addition of new capacity or as a result of being returned to the pool. At present slot sales are allowed only between airlines with respect to slots which already exist. Primary trading has attracted the support of many economists for a long time. It is, they would argue, the best way to ensure that slots are used in the most economically efficient way. They point to other industries which have had to allocate scarce resources where successful auctions have taken place, such as spectrum sales.

The CMA is very critical of the current administrative mechanism for allocating slots, calling it “inherently flawed” and an approach which will always result in inefficient outcomes. “Auctioning slots provides an opportunity for airlines to have a direct input into how they shape their networks and how best to respond to the demands of their passengers over time, according to their knowledge and strategic direction. There is no clear rationale for why these important commercial decisions should be made by a third-party administrator...”

Nevertheless, the CMA accepts that a market-based approach is not without its risks, something with which no doubt many airlines will be quick to agree. The most obvious such risk is that carriers with market power will be better placed than new entrants to buy slots, thereby leading to an increase rather than a reduction in slot concentration. There is also the related problem of State-subsidised airlines not encumbered by the need to make commercial decisions and willing to pay whatever is needed to gain access to slot-constrained airports. There is already evidence of this in the secondary market for Heathrow slots.

The CMA’s rather weak solution to such problems, which it readily acknowledges, is to “strongly encourage the government to consult and engage experts in the field of auction design.” This seems to be the equivalent of saying: “We don’t know what the answer is, but surely someone out there has it.” A similar degree of fence sitting is seen in the CMA’s criticism of grandfather rights, where it says only that “a balance needs to be found between airlines’ commercial and operational imperatives while ensuring that enough slots are made available for airlines wanting to enter or expand services.”

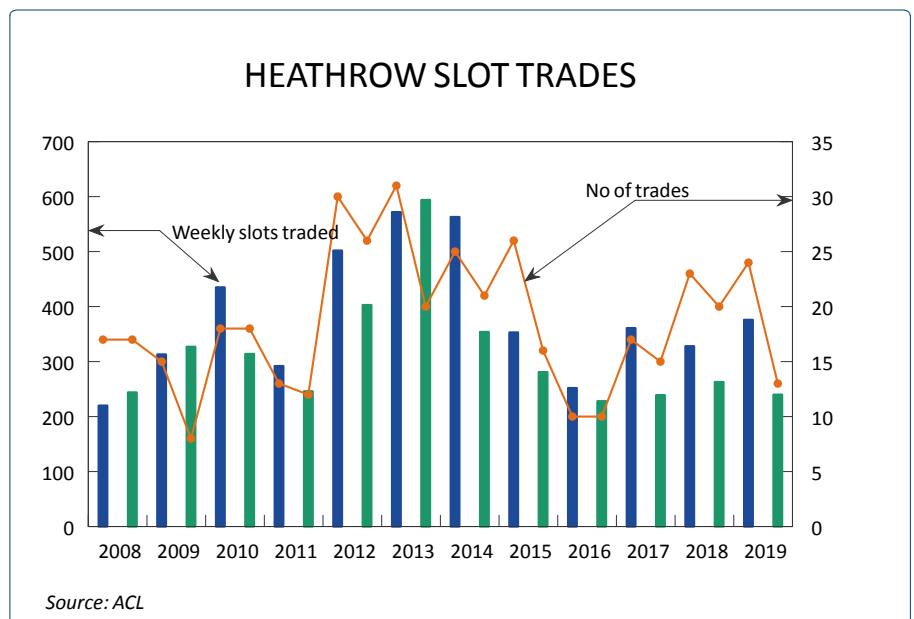
There is also the issue, of course, of who will receive the considerable funds likely to be generated by primary slot trading. There has never been a definitive conclusion on who actually owns airport slots. Under single till airport price regulation, if the sale receipts went to the airport, they would presumably be used to off-set airline charges. Alternatively, at Heathrow they could be used to meet at least some of the cost of the construction of the new runway, with funds provided before the run-

way’s opening, thereby giving airlines time to prepare to use the increased capacity at the earliest opportunity. On the other hand, the Government might not be able to resist another source of revenue.

Likelihood of reform?

Are any of these radical proposals likely to be implemented? The answer may be no, not least because the main driver for reform, the construction of a third runway at Heathrow, is still stuck in a political quagmire. It is particularly the third runway which has highlighted the shortcomings of the current EU/IATA slot allocation rules. Anything other than a clear Conservative majority in the December General Election is likely to see yet more delay to the expansion of Heathrow, if not outright cancellation (again).

At the same time, however, there is certainly growing pressure to reform the slot rules. Even the European Commission has recognised this. Commenting in July this year, for example, Filip Cornelis of the Commission noted: “We believe that the existing rules must be improved, in particular in view



Aviation Strategy

of recent market developments (eg bankruptcies) [and] new practices affecting the allocation and use of slots.” Unfortunately, reform of the Slot Allocation Regulation has been on the EU agenda for a long time, with no clear consensus emerging on what to do. Certainly, the Commission is unlikely to be attracted by the radical CMA proposals (it has struggled to accept secondary trading, let alone the primary sale of slots). It will be faced with considerable opposition from the airline community to any major changes to the slot rules.

In June, IATA announced new governance rules for its slot guidelines. In future, airlines, airports and slot coordinators will play an “equal role” in determining what the rules should be. “This fully reformed governance sets the ideal ground to regularly review the slot allocation process.” Somehow this seems unlikely to satisfy those looking for a more radical initiative. On past experience, the chances of serious proposals for reform emerging from IATA and the vast

majority of its members are remote.

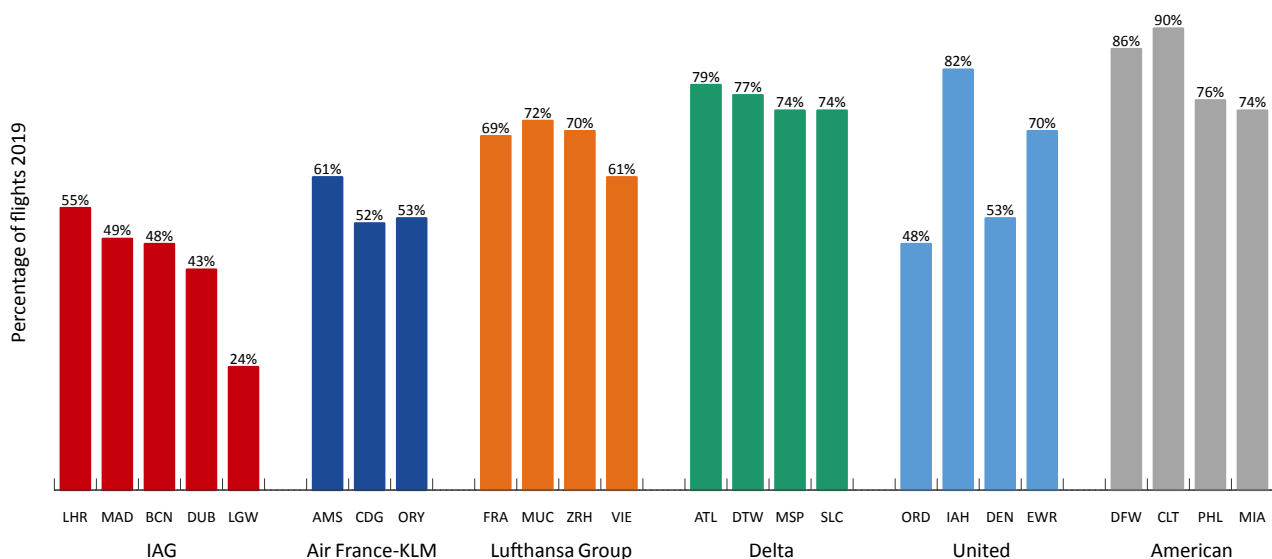
Brexit should make it easier for the UK to go its own way in reforming the slot allocation rules, and there does seem to be some interest in doing so. Speaking at the Airlines 2050 conference in London in October, Dan Micklethwaite, Director of Aviation in the Department for Transport, said that the possible expansion of Heathrow presented a “unique scenario” in this respect. “We believe there is a case for change here, and we want to work with the industry and IATA to start a debate on what it looks like.” He went on to note that the current slot rules are not designed for the “once-in-a-generation moment where you get a significant amount of slots at a very constrained airport.”

‘Once-in-a-generation’ seems to be the phrase of the moment for those looking to reform the slot allocation rules in the UK. Whether the enthusiasm for change would survive further delay in the construction of a third Heathrow runway remains to be seen, as does whether Virgin At-

lantic’s demands will come anywhere near to being met. Perhaps not something to bet your house on.

Dr Barry Humphreys is an aviation consultant. Until retiring in 2009, he was Director of External Affairs and Route Development at Virgin Atlantic Airways.

NETWORK CARRIERS AND HUB DOMINANCE



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Jet Values and Lease Rates

THE FOLLOWING tables reflect the current values (not “fair market”) and lease rates for narrowbody and widebody jets. Figures are provided by The Aircraft Value Analysis Company (see following page for contact details) and are

not based exclusively on recent market transactions but more generally reflect AVAC’s opinion of the worth of the aircraft. In assessing current values, AVAC bases its calculations on many factors such as number of type in service, number on order and

backlog, projected life span, build standard, specification etc.

Lease rates are calculated independently of values and are all market based.

		JET VALUES (\$m)								
		New	Years Old			New	Years Old			
			5	10	20		5	10	20	
Regional	Emb 175 [†]	26.8	20.6			S100-95	22.8			
	Emb195	29.2	21.5	13.9						
Narrowbody	A220-100	33.5				717-200		6.9	4.4	
	A220-300	37.7				737-300 [§]			2.1	
	A319 [§]	35.0	25.2	15.4		737-400 [§]			2.9	
	A319neo	39.3				737-500 [§]			2	
	A320-200 [§]	42.8	32.1	21.4		737-600 [§]		8.0	3.5	
	A320neo	52.0	39.1			737-700 [§]		25.0	20.0	7.9
	A321-200 [‡]	48.4	35.6			737-800 [§]	44.9	34.2	27.8	9.5
	A321neo	58.3				737 MAX 7	38.8			
	A321neo LR	62.2				737 MAX 8	53.4			
						737 MAX 9	52.3			
					737 MAX 10	56.7				
					757-200*				5.7	
Widebody	A330-200 ^{†‡}	75.0	57.5			747-400*			7.4	
	A330-300 Regional	86.8	66.5			747-8I	98.2	69		
	A330-900 neo	112.6				767-300ER [§]		22.6	13.4	
	A340-300 ER*				6.9	777-200LR		35.8	27.7	
	A350-900	150.0	98.4			777-8	145.0			
	A350-1000	167.9				777-9	178.1			
	A380-800 [‡]	185.9	135.4	84.9		787-8	118.8	84.1		
					787-9	146.9	97.2			
					787-10	154.2				

Source: AVAC.

Notes: As at end-October 2019, lease rates assessed separately from values. [†] = Enhanced, [‡] = IGW, [‡] = LGW, [§] = HGW, * = for conversion

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JET LEASE RATES (\$'000s/month)

		Years Old					Years Old				
		New	5	10	20		New	5	10	20	
Regional	Emb 175 †	182	167			S100-95	135				
	Emb195	222	192	155							
Narrowbody	A220-100	243				717-200		94	68		
	A220-300	292				737-300§			58		
	A319§	259	204	150		737-400§			62		
	A319neo	307				737-500§			41		
	A320-200§	312	255	200		737-600§			86	50	
	A320neo	368	294			737-700§		257	133	98	
	A321-200‡	344	275			737-800§	339	278	243	145	
	A321neo	406				737 MAX 7	312				
	A321neo LR	433				737 MAX 8	411				
						737 MAX 9	413				
						737 MAX 10	436				
					757-200*						
Widebody	A330-200 †‡	621	511			747-400*					
	A330-300 Regional	729	625			747-8I	821	670			
	A330-900 neo	889				767-300ER§			238	202	
	A340-300 ER*					777-200LR	405	359			
	A350-900	1172	887			777-8	1332				
	A350-1000	1439				777-9	1483				
	A380-800 ‡	1439	1123	758		787-8	861	690			
						787-9	1100	827			
						787-10	1267				

Source: AVAC.

Notes: As at end-October 2019, lease rates assessed separately from values. † = Enhanced, ‡ = IGW, ‡ = LGW, § = HGW, * = for conversion

AIRCRAFT AND ASSET VALUATIONS

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